

TOPIC 13: COMPLICATIONS OF DIABETES: RETINOPATHY (DIABETIC EYE DISEASE)**STATEMENT OF THE PROBLEM**

Retinopathy is a disease of the retina and small blood vessels in the eye that can accompany diabetes. Annual dilated eye exams are important to detecting early signs.

KEY MESSAGES

1. Diabetes can damage your eyes and lead to vision loss
2. Regular dilated eye exams (by an eye doctor) can help detect early signs of eye damage related to diabetes
3. If retinopathy is detected early on, laser treatment can often prevent further vision loss

BACKGROUND

Retinopathy is a disease of the retina and small blood vessels in the back of the eye. The retina is the tissue at the back of the eye that reacts to light and sends pictures to the brain to allow one to see. Many small blood vessels (called capillaries) crisscross the retina to supply oxygen and nutrients.

There are two types of retinopathy: nonproliferative and proliferative. Nonproliferative retinopathy is the more common type. Both types of retinopathy may be caused from high blood sugar levels and high blood pressure over many years.

In nonproliferative retinopathy the small blood vessels that cross the retina may balloon and form pouches. There are different stages of this condition and more and more blood vessels may become blocked over time. Eventually these blood vessels can weaken and leak blood. Scar tissue may form which can lead to blurry vision, but often people have no symptoms with this type of retinopathy.

Proliferative retinopathy is the more serious form of eye disease. In this form, the small blood vessels may become so damaged that they close off, cutting off oxygen and nutrients to this area of the eye. In response, new blood vessels will start growing on the retina, but these are weak and may leak blood which will eventually block vision. The new blood vessels can also cause scar tissue to grow on the retina. When the scar tissue shrinks, it can distort the retina and may pull it away from the back of the eye. This is called retinal detachment and is a medical emergency. Signs of a retinal detachment include sudden partial or complete loss of vision in one or both eyes or it may seem as if a curtain has been pulled over part of your eye. It is important to call your doctor and go to an emergency room immediately if this happens.

THE SYMPTOMS OF RETINOPATHY

Usually there are no early symptoms of either type of retinopathy. Symptoms typically occur after significant damage has been done to the retina and/or eye. These later signs include “cob-web” vision, “bloody” vision or black floating spots. Patients should notify their doctor of these symptoms immediately and/or go to an emergency room.

Is There Treatment for Diabetic Retinopathy?

- If discovered early, laser therapy can be used to repair damaged blood vessels and most blindness can be prevented. Laser surgery may bring back some vision already lost, and will most likely keep the retinopathy from getting worse. However, if the damage is too significant, vision may not be restored.

Can Retinopathy be prevented?

- It is very important to have a dilated eye exam by an eye doctor, once a year to detect early signs of retinopathy. A dilated exam is when medicine drops are put into the eye to make the pupil, (the black dot in the middle of the eye) larger. This allows the eye doctor to get a good look at the retina and blood vessels at the back of the eye. Studies in the United States and in Great Britain have shown that retinopathy can be lessened, and possibly prevented, if blood sugars are in the target range (< 180 mg/dl at all times and with an A1c of 7% or less). Blood pressure also should be in the target range. Taking blood pressure medications and keeping your blood sugar in the target range by balancing food, exercise and diabetes medications can help to achieve these goals.

SUMMARY FACTS ABOUT DIABETES AND EYE DISEASE:

- Consistently high blood sugars can damage your eyes
- The longer you have had diabetes the more likely you are to develop retinopathy
- Eye damage can occur faster and be more severe in people with high blood pressure
- Finding and treating eye problems early on can help prevent impaired vision or complete loss of eyesight
- Having annual dilated eye exams with an eye doctor to screen for retinopathy is very important
- If your eyesight changes suddenly, you may have a very serious problem and should contact your doctor immediately

PATIENT OUTCOMES/GOALS

By the end of the educational session, the client with diabetes will be able to:

- Identify the need for annual dilated eye exams.
- State that near normal blood sugar and blood pressure values may help prevent retinopathy

CHW Actions	Participant Actions
<ul style="list-style-type: none"> • Describe retinopathy and its symptoms as a complication of diabetes. • Emphasize the need for an annual dilated eye exam for early detection and keeping blood glucose and blood pressure within target ranges to lessen the risk of its development. 	<ul style="list-style-type: none"> • Manage blood pressure and keep blood glucose in the target range as preventive measures. • Have an annual dilated eye exam for early detection and treatment of symptoms.

TOOLS/TEACHING AIDES

- None

HANDOUTS

1. **Topic 13 Coversheet**.....[English](#) | [Spanish](#)
2. **Problems of the Eye**[English](#) | [Spanish](#)
Source: Cass, Tiernan, [A Diabetes –Self Management Program, Community Health Access Program \(CHAP\)](#), Galveston County Health District, 11/2004.
3. **Action Plan**.....[English](#) | [Spanish](#)
Source: [Public Health – Seattle & King County](#)

REFERENCES

Type 2 Diabetes: A Curriculum for Patients and Health Professionals, American Diabetes Association, 2002.

The Joslin Guide to Diabetes: A Program for Managing Your Treatment, Beaser, R.S. Fireside ed./Joslin Diabetes Center, 2005.

American Diabetes Association, <http://www.diabetes.org/living-with-diabetes/complications/?loc=DropDownLWD-complications>

Version	Date	Description	Staff	Final
V.1.	12/23/2011	Original	KA/ JK	Yes
V.2.	11/13/2013	Revision	JK/KN	Yes
V.2.1	07/24/2014	Updated Formatting	ND	Yes